United States Department of the Interior
FISH AND WILDLIFE SERVICE
Eastern Idaho Field Office
4425 Burley Dr., Suite A
Chubbuck, Idaho 83202
Telephone (208) 237-6975
http://IdahoES.fws.gov

Michael A. Bussell, Director
Office of Water and Watersheds
US Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

SEP 19 2012

Subject: Biological Evaluation for the Small Suction Dredge Mining Operations National Pollution Discharge Elimination System General Permit for the State of Idaho - Concurrence
In Reply Refer To: 14420-2012-I-0435

Dear Mr. Bussell:

The Fish and Wildlife Service (Service) is providing concurrence with the Environmental Protection Agency's (EPAs) effects determination for the proposed Small Suction Dredge Mining Operations (Suction Dredge) National Pollution Discharge Elimination System (NPDES) General Permit for the State of Idaho (NPDES Permit) in accordance with section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.; [Act]). In an August 22, 2012 letter received by the Service on August 27, 2012, EPA requested concurrence with the determinations, as documented in the Biological Evaluation (Evaluation), that the NPDES Permit may affect, but is not likely to adversely affect, Banbury Springs lanx (*Lanx* sp.), Bliss Rapids snail (*Taylorconcha serpenticola*), Bruneau hot springsnail (*Pyrgulopsis bruneauensis*), Snake River physa snail (*Haitia* (*Physa*) *natricina*), bull trout (*Salvelinus confluentus*) and its designated critical habitat, Kootenai River white sturgeon (*Acipenser transmontanus*) and its designated critical habitat, and grizzly bear (*Ursus arctos*). The EPA also determined that the NPDES Permit will not affect Canada lynx (*Lynx canadensis*), Northern Idaho ground squirrel (*Spermophilus brunneus endemicus*), Selkirk Mountains woodland caribou (*Rangifer tarandus caribou*), Spalding's catchfly (*Silene spaldingii*), slickspot peppergrass (*Lepidium papilliferum*), Ute ladies'-tresses (*Spiranthes diluvialis*), MacFarlanes's four-o-clock (*Mirabilis macfarlanei*), water howellia (*Howellia aquatilis*), yellow-billed cuckoo (*Coccyzus americanus*), southern Idaho ground squirrel (*Spermophilus bruueus endemicus*), Goose Creek milkvetch (*Astragalus anserinus*), Columbia spotted frog (*Rana luteiventris*), and Christ's paintbrush (*Castilleja christii*). Regulations implementing section 7 of the Act do not require the Service to review or concur with no effect determinations, and as such they will not be addressed further. However, the Service appreciates being informed of the determinations even if not required to do so.

Consultation History

In February 2010, the Service received an Evaluation for the small Suction Dredge mining NPDES Permit. In March 2010, the Service provided EPA with a non-concurrence letter, along with comments/recommendations to incorporate into a revised Evaluation, necessary for the Service to concur with EPA's effects determination. Following our March 2010 letter, conversations were held between the Service and EPA to discuss the proposed action and exclusion of specific waterbodies necessary to protect listed aquatic species and their designated critical habitat. Recommended revisions were incorporated into EPA's Revised Final Evaluation received in August 2012. In a 14 September 2012 email, the Service identified additional information needs and requested critical habitat effects determinations be added to the August 2012 Evaluation. Those additions were provided to the Service on 18 September 2012. With those revisions, the Service has enough information to complete consultation.

Proposed Action

EPA is proposing to issue a NPDES Permit for Suction Dredge operations in the State of Idaho. This general permit, when issued, will establish effluent limitations, prohibitions, best management practices (BMPs), and other conditions governing the discharge of pollutants to waters of the United States from Suction Dredge operations, and will have a term of five years from its effective date (Evaluation, p.1).

Equipment Specifications

The NPDES Permit authorizes discharge from placer mining by small suction dredges. For this permitting action, small suction dredges are defined as having intake nozzle diameters of less than or equal to five inches and a rating of no more than 15 horsepower (HP), or (multiple) dredging operations with the diameter equivalent to a five inch dredge as long as the combined HP does not exceed 15 (Evaulation, p 2). Larger suction dredges and other placer mining activities are not authorized under this NPDES Permit.

Effluent Limitations

EPA incorporated water quality-based effluent limitations for turbidity into this NPDES permit, and are summarized below:

- The NPDES permit requires implementation of BMPs to reduce turbidity and monitoring to ensure that BMPs are achieving proper controls. Proper implementation of BMPs will be protective of the Idaho Water Quality Standards for turbidity (Evaluation, p.4).
- Any visible increase in turbidity (and cloudiness or muddiness) above background beyond any point more than 500 ft downstream of the suction dredge during operations is considered a violation of this NPDES permit. This requirement includes any turbidity that may result from any part of the operation.
- The 500 ft distance downstream is based upon the mixing zone included in the CWA § 401 Certification from the Idaho Department of Environmental Quality (Evaluation, p.5).

Prohibited Areas

EPA and the State have restricted suction dredge mining in numerous locations to avoid and minimize adverse effects on the aquatic environment and species listed as threatened or endangered under the Act. These water bodies include (Evaluation, p.6):

- Nationally Protected Areas
- National Wild and Scenic Rivers
- Withdrawn river segments
- State protected rivers
- Water quality limited segments
- Snake River Basin Chinook, steelhead and sockeye critical habitat
- Bull trout critical habitat
- Kootenai River white sturgeon critical habitat
- All occupied stream segments (not designated as critical habitat) occupied by bull trout, Kootenai River white sturgeon, and listed snail species

Timing windows have also been established in waterbodies where resident game fish are known to spawn. Suction Dredge activities operating in these prohibited areas or outside the timing windows established by the State are in violation of this NPDES permit.

Species Presence and Habitat Conditions in the Project Area

Listed Fish

Bull trout range throughout the Columbia River and Snake River basins and exhibit a number of life history strategies. Stream-resident bull trout complete their entire life cycle in the tributary streams where they spawn and rear. Most bull trout are migratory, spawning in tributary streams where juvenile fish usually rear from 1 to 4 years before migrating to either a larger river (fluvial) or lake (adfluvial) where they spend their adult life, returning to the tributary stream to spawn. Resident and migratory forms may be found together, and either form can produce resident or migratory offspring. Bull trout have declined due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management, and the introduction of non-native species such as brown, lake and brook trout.

Approximately 8,772 stream/shoreline miles and 170,217 acres of reservoirs or lakes have been designated in Idaho as critical habitat for bull trout [75 FR 63898]. Critical Habitat Units in Idaho include the Imnaha River Basin, Sheep and Granite Creeks, Powder River Basin, Hells Canyon Complex, Clearwater River, Mainstem Upper Columbia River, Mainstem Snake River, Malheur River Basin, Jarbidge River, Southwest Idaho Basins, Salmon River, Little Lost River, Coeur d'Alene River Basin, Kootenai River Basin, Clark Fork River Basin and the St. Mary River Basin.

Critical habitat is designated in those areas the Service believes have habitat components necessary for the conservation of bull trout. The habitat component of most importance to the issuance of the NPDES Permit is adequate water quality that would not impede any bull trout spawning, rearing, overwintering, or foraging habitat. Suction Dredge operations are not authorized in any designated bull trout habitat or in non-designated habitat that is occupied by bull trout (Evaluation, p.32).

The Kootenai River population of white sturgeon is restricted to approximately 168 river miles (RM) in the Kootenai River. White sturgeon is a long lived species with females living from 34 to 70 years, with some individuals approaching 100 years. From 1990 to 1998, monitoring programs were conducted that revealed white sturgeon spawn within a 12 mile reach of the Kootenai River, primarily from Bonners Ferry downstream to the lower end of Shorty's Island (Evaluation, p.17).

White sturgeon spawn in fast-flowing water with water velocity acting as a cue for spawning. White sturgeon usually broadcast eggs over clean cobble at depths greater than 20 ft at column velocities greater than 2.6 ft/s, and at water temperatures from 8.5 to 12 °C. The last significant sturgeon recruitment in the Kootenai River occurred in 1974, prior to the Libby Dam becoming operational (Evaluation, p.17). Based on data from 1992 through 2001, it is estimated that on average only about 10 juvenile sturgeon annually may be naturally produced in the Kootenai River. Its decline is primarily due to the changing hydrograph and thermograph from the operation of Libby Dam and loss of riparian and floodplain habitat from excessive diking (Evaluation, p.17).

Critical habitat was designated for 18.3 RM of the Kootenai River entirely within Boundary County. Critical habitat is currently designated in the braided reach from RM 159.7 below the confluence with the Moyie River, downstream to RM 152.7 at Bonners Ferry and continues downstream into the meander reach to RM 141.4 [71 FR 6383].

Critical habitat is designated in those areas the Service believes have habitat components necessary for the conservation of sturgeon. The habitat component of most importance to the issuance of the NPDES Permit is adequate water quality that would not impede any sturgeon spawning, rearing, overwintering, or foraging habitat. Suction Dredge operations are not authorized in any designated Kootenai River white sturgeon habitat or in non-designated habitat that is occupied by the sturgeon (Evaluation, p.31).

Listed Invertebrates

Banbury Springs lanx are found on smooth basalt, boulders, or cobble-sized substrate ranging from 2-20 inches deep. They currently exist in only four coldwater spring complexes along 6 RM of the middle Snake River, including: Thousand Springs, Box Canyon Springs, Banbury Springs, and Briggs Springs. Habitat modification and reduced water quality are two primary factors leading to decline for this species. Critical habitat has not been designated for the Banbury Springs lanx, though Suction Dredge operations are not authorized in occupied Banbury Springs Lanx habitat (Evaluation, p.27).

The Bliss Rapids snail occurs in cold water springs and spring-fed tributaries to the Snake River, and in some reaches of the Snake River. The Bliss Rapids snail is primarily found on cobble boulder substrate. Recent surveys indicate the species is distributed discontinuously over 22 miles, from RM 547-560, RM 566-572, and at RM 580 on the Snake River. It also occurs in 14 springs or tributaries to the Snake River. Habitat modification and reduced water quality are two primary factors leading to decline for this species. Critical habitat has not been designated for the Bliss Rapids snail, though Suction Dredge operations are not authorized in occupied Bliss Rapids snail habitat (Evaluation, p.27).

Bruneau Hot Springsnail is limited to a 5-mile reach of the Bruneau River and the lower one-third of its tributary, Hot Creek. The snail is native to geothermal springs and seeps with temperatures ranging from 15.7 – 36.9°C. It is found in habitats on exposed surfaces of various substrates including rock, sand, gravel, mud, and algal films. Agriculture-related groundwater withdrawl and pumping are the primary threats to this species. Critical habitat has not been designated for the Bruneau Hot Springsnail, though Suction Dredge operations are not authorized in occupied Bruneau Hot Springsnail habitat (Evaluation, p.27).

Snake River physa are known from the Snake River in south-southwest Idaho, with limited specimens recorded from a single major tributary. The Service reported that Snake River physa's "modern" range extended from Grandview (RM 487) to the Hagerman Reach (RM 573). Specimens collected by the Bureau of Reclamation and Idaho Power Company from 1995 to 2003 confirm its distribution to as far upstream as Minidoka Dam (RM 675) and as far downstream as Ontario, Oregon (RM 368); some 128 miles downstream of its previously recognized range (Grandview). Two specimens were recovered from the Bruneau River arm (RM 4) of C.J. Strike Reservoir, representing the only tributary of the Snake River from which the species has been recorded. Snake River physa are a large-river species, typically associated with gravel-dominated habitats in deeper portions of the river. Habitat modification and reduced water quality are two primary factors leading to decline for this species. Critical habitat has not been designated for the Snake River physa, though Suction Dredge operations are not authorized in occupied Snake River physa habitat (Evaluation, p.27).

Listed Mammals

Grizzly bears were listed as threatened under the ESA on July 28, 1975. On March 22, 2007, the Service announced that the Yellowstone Distinct Population Segment (DPS) of grizzly bears was recovered, however this decision was remanded by the court on September 21, 2009 and the threatened status was reinstated. Idaho populations of grizzly bears are estimated to include 30 to 40 bears in the Cabinet-Yaak Recovery Zone, 40 to 50 bears in the Selkirk Mountain Recovery Zone and approximately 600 bears in the Yellowstone Recovery Zone (Evaluation, p.21). Grizzly bears prefer open meadows and avalanche chutes in the spring and timberlands with berry bushes in late summer and fall. The bear will forage for wild fruits, nuts, bulbs and roots, and it has been known to tear rotten logs apart and overturn heavy stones in search of insects and larvae. Bears begin searching for their ideal den in early fall. Females produce an average of two cubs every three years, and they stay with their cubs for about two years. In Idaho, grizzly bears have large territories that range an average of 200 to 300 mi^2. No critical habitat has been designated for grizzly bears.

Potential Impacts and Effects from the Proposed Action

In general Suction Dredge operations can alter physical components of river and stream beds, entrain aquatic species, and impair water quality (Evaluation, p.33-34). Physical effects result from mobilizing and redistributing stream sediments, which may affect instream features such as pools and riffles, and may result in suspended sediments in the water column. Suction Dredge operations may also introduce petroleum products into the river/stream, or resuspend toxic chemicals that have settled out in the sediments. Impacts from these effects may result in fish and/or snail kills, reduced biodiversity, or increased turbidity.

Effluent limitations, prohibitions, BMPs, and other conditions governing the discharge of pollutants to waters of the U.S. will be implemented as part of the NPDES Permit. Those conditions are expected to make any impacts from the proposed action insignificant and discountable. The Service's rationale for our concurrence is outlined below.

The degree that turbidity generated from Suction Dredge mining will affect aquatic species depends on: (1) the size of the water body where dredging is occurring; (2) background turbidity; (3) the number of suction dredges operating within a stream segment; and (4) the availability of off channel habitat to provide refuge for aquatic species trying to avoid turbid waters. Because Suction Dredge operations are not authorized in designated critical habitat or streams occupied by listed species, exposure to increased turbidity would be limited to those dredge operations occurring in an area directly adjacent to a non-authorized area. Any visible increases in turbidity are limited (e.g. authorized in the NPDES permit) to a 'mixing zone' distance of 500 ft downstream from dredging activities, though the literature indicates turbidity typically returns to background within 200 ft from the dredge (Evaluation, p.41). Given that most snail species are located within the boundaries of those rivers/streams not authorized for Suction Dredge activities, and where the species (Banbury Springs limpet and Bliss Rapids snail) are located at the edge of the protected areas, these species are upstream of where dredging is authorized. Impacts from turbidity to Kootenai River white sturgeon and bull trout is limited to the 500 foot mixing zone that may extend into those stream reaches where Suction Dredge activities are not authorized. The availability of suitable habitat located immediately adjacent to any mixing zone, sturgeon and bull trout would be able to avoid the 500 foot extent of turbid water. As such, impacts from turbidity are expected to be insignificant. There is the potential for Suction Dredge mining to resuspend contaminants such as mercury, which was used in historic mining operations, and still remains in some sediment as a result. The NPDES permit requires any permittee that encounters mercury to collect it and work with the local Idaho Department of Environmental Quality to ensure it is disposed of properly, making impacts from mercury contamination discountable.

There is a potential for spillage of petroleum products and leaking of lubricants into streams or rivers from dredges and vehicles used to unload them. With the exception of the suction dredge, motorized equipment is not allowed below the mean high water mark; therefore vehicles should not enter the stream or river channel. Additionally, the permittee is required to check equipment for fuel and oil leaks prior to daily operation. The NPDES permit stipulates that all equipment must be in proper working order and shall not leak petroleum products. To avoid fuel spills, suction dredges must be checked for leaks, and all leaks must be repaired prior to the start of operations each day. When refueling, suction dredges must be anchored to the stream bank, so that fuel does not need to be carried out into the stream. Unless the dredge has a detachable fuel tank, miners may transfer no more than one gallon of fuel at a time during refilling. Miners must use a funnel while pouring, and place an absorbent material such as a towel, under the fuel tank to catch any spillage from refueling operations. A spill kit must be available in case of accidental spills (Evaluation, p.42). Given these BMPs, impacts from a fuel spill are expected to be discountable.

Mortality, excavation, and displacement of small organisms such as eggs, alevins and snails can occur should they be suctioned into the dredges. Given that Suction Dredge operations are not authorized in designated critical or occupied habitat, impacts from entrainment are expected to be discountable. Never the less, permittees are required to equip their intake pipes with 3/32 inch screens to prevent aquatic species from entering the dredge.

Other potential impacts resulting from Suction Dredge operations may include disturbance and a reduction in prey species to both aquatic and terrestrial species (i.e., grizzly bears). Because Suction Dredge operations will not be authorized in designated critical or occupied aquatic habitat, it is expected that Suction Dredge operations will not result in barriers to movement, and access to suitable habitat will not be restricted, making impacts from disturbance discountable. Suction Dredge operations do not include the removal of any terrestrial habitat; therefore, all potential grizzly bear habitat would remain intact. Human presence may cause localized displacement of bears, but because Suction Dredge activities occur in the aquatic system, disturbance to bears is expected to be insignificant. Similarly, though Suction Dredge operations may alter food availability in the vicinity of the dredging operations, food availability is not expected to be altered in the designated critical and occupied habitat where Suction Dredge operations are not authorized.

Concurrence

Based on Service review of the revised Evaluation, and information from multiple telephone and email conversations with Andrea Latier of your staff, we concur with EPA's determination that the project outlined in the Evaluation and this letter, may affect, but is not likely to adversely affect Banbury Springs lanx, Bliss Rapids snail, Bruneau hot springsnail, Snake River physa snail, bull trout, Kootenai River white sturgeon, and grizzly bear. This concurrence is based on the discountable likelihood of entrainment or authorized discharges from the Suction Dredge operations introducing contaminants to the rivers and streams reaching water where listed species occur, as well as the insignificant effects of turbidity and disturbance to listed species.

We also concur with the determination that the proposed action is not likely to adversely affect bull trout and Kootenai River white sturgeon designated critical habitat. This determination is based on effluent limitations, prohibitions, BMPs, and other conditions governing the discharge of pollutants to waters of the United States from Suction Dredge operations. These conditions, when implemented will reduce the scale of impacts such that they are likely to be insignificant to the designated critical habitat.

This concludes informal consultation. Further consultation pursuant to section 7(a)(2) of the Act is not required. Reinitiation of consultation on this action may be necessary if new information reveals effects of the action that may affect the listed species or designated critical habitat in a manner or to an extent not considered in the Evaluation, the action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the analysis, or a new species is listed or critical habitat is designated that may be affected by the proposed action.

The Service appreciates EPA working with us throughout this consultation process, and for your continued interest in the conservation of endangered, threatened, and proposed species. If you have any questions about this consultation or the above Service letter please contact Sandi Fisher of this office at (208) 237-6975 x 102.

Sincerely,

David Kampwerth
Field Supervisor

cc: Service, Boise (Holder)
Service, Spokane (Conard)
NMFS, Boise (Arthaud)